WHAT IS CLAIMED IS:

1. A method of identifying double tap gesture with which the double tap gesture is performed on a touch device, comprising follow steps:

5   i. Detecting a first appearance of an object on the touch device;

         ii. Detecting a second appearance of the object on the touch device; and

         iii. generating a first signal that represents the first and
10 second appearances in case of the summation of a first appearing time duration, a second appearing time duration and a time span between the two appearing time durations being smaller than a first reference time.

2. The method of identifying double tap gesture as defined in
15 claim 1, wherein the first signal is generated when the accumulated displacement of the second appearing duration is smaller than the reference displacement value.

3. The method of identifying double tap gesture as defined in claim 1, wherein the first signal is generated when the first appearing
20 time duration is larger than the first minimum tap reference time value.

4. The method of identifying double tap gesture as defined in claim 1, wherein the first signal is generated if the second appearing time duration is larger than the second minimum tap reference time
25 value.

5. The method of identifying double tap gesture as defined in claim 1, wherein the first signal is generated when the time span between the ending of the first appearing time duration and the start of the second appearing time duration is larger than the first minimum

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UP reference time value.

6. The method of identifying double tap gesture as defined in claim 1, 2, 3, 4, or 5 wherein the first signal will be generated when there is no detection of a new appearance within the time after the ending of the second appearance that is at least larger than the second minimum UP reference time value.

7. The method of identifying double tap gesture as defined in claim 1, wherein the first signal is transmitted to a host.

8. A controller of the touch device, with which it is used to identify gesture of an object on the touch device, the controller comprising:

an operational unit, being used to detect every appearance of the object on the touch device and accordingly producing a respective tap signal, the respective tap signal being generated corresponding to the start of the appearance on the touch device and being terminated when that appearance finishes; and

a gesture unit, being connected to the operational unit so as to receive the tap signal, calculating the time duration of the object appearing on the touch device based on the tap signal and identifying movement of the object;

wherein, the gesture unit receives from the operating unit the generated first tap signal and the second tap signal corresponding to the first and second appearance of the object on the touch device respective; the gesture unit also computes the summation of the first appearing time duration, the second appearing time duration and then time span between the two appearing time durations and compares this result with the first reference time; and if the sum is smaller than the first reference time value, then produce the first signal that presents the first and second appearance.

9. The controller of identifying double tap gesture as defined

in claim 8, wherein the tap signal generated by the operational unit includes the amount of displacement on the touch device.

10. The controller of identifying double tap gesture as defined in claim 9, wherein the first signal will be generated by the gesture unit when the accumulated displacement of the second appearing time duration computed by the gesture unit is smaller than the reference displacement value.

11. The controller of identifying double tap gesture as defined in claim 8, wherein the first signal will be generated by the gesture unit only when the first appearing time duration is larger than the first minimum tap reference time value.

12. The controller of identifying double tap gesture as defined in claim 8, wherein the first signal will be generated by the gesture unit when the second appearing time duration is larger than the second minimum tap reference time value.

13. The controller of identifying double tap gesture as defined in claim 8, wherein the first signal will be generated by the gesture unit when the time span between finish of the first appearing time duration and the start of the second time duration is larger than the first minimum UP reference time value.

14. The controller of identifying double tap gesture as defined in claim 8, 10, 11, 12 or 13 wherein the first signal will be generated by the gesture unit when there is no detection of a new appearance within the time after the ending of the second appearance that is at least larger than the second minimum UP reference time value.

15. The controller of identifying double tap gesture as defined in claim 8, wherein the controller further includes a transmitter interface that is connected to the gesture unit and transmit the first signal to a host.

16. A gesture unit of the touch device, which is used to identify movement of an object on the touch device, wherein the gesture unit receives from the operating unit the generated first tap signal and

the second tap signal corresponding to the first and second appearance of the object on the touch device respective, the gesture unit also computes the summation of the first appearing time duration, the second appearing time duration and then time span between the two appearing time durations and compares this result with the first reference time; and if the sum is smaller than the first reference time value, the first signal that presents the first and second appearance is produced.

17. The gesture unit as defined in claim 16, wherein the first signal is generated when the accumulated displacement of the second appearing time duration is smaller than the reference displacement value.

18. The gesture unit as defined in claim 16, wherein the first signal is generated when the first appearing time duration is larger than the first minimum tap reference time value.

18. The gesture unit as defined in claim 16, wherein the first signal is generated when the second appearing time duration is larger than the second minimum tap reference time value.

19. The gesture unit as defined in claim 16, wherein the first signal is generated when the time span between the finish of the first appearing time duration and the start of the second appearing time duration is larger than the first minimum UP reference time value.

20. The gesture unit as defined in claim 16, 17, 18, 19 or 20 wherein the first signal is generated when there is no detection of a new appearance within the time after the ending of the second appearance that is at least larger than the second minimum UP reference time value.